

***What Is Claimed Is:***

1. Apparatus for interfacing radiological image processing equipment with a communication network, comprising:

a receive interface coupled to said communication network, the receive interface adapted to receive one or more input radiological images from said communication network and to pass them to said radiological image processing equipment;

a transmit interface coupled to said communication network, the transmit interface adapted to transmit processed radiological image information from said radiological image processing equipment through said communication network; and

control logic coupled to said receive interface and to said transmit interface, and to said radiological image processing equipment, the control logic adapted to coordinate operation of said receive interface, said transmit interface, and said radiological image processing equipment.

2. The apparatus according to Claim 1, further comprising:

an input buffer coupled to said receive interface and to said control logic, the input buffer being adapted to store input radiological images received by said receive interface prior to passing them to said radiological image processing equipment.

3. The apparatus according to Claim 1, further comprising:

an image file format converter adapted to receive input radiological images and to remove non-image information from the input radiological images prior to passing the input radiological images to said radiological image processing equipment.

4. The apparatus according to Claim 1, further comprising:

at least one output buffer coupled to said transmit interface and to said control logic and adapted to store processed radiological image information prior

to transmitting the processed radiological image information through said communication network.

5. The apparatus according to Claim 4, wherein said at least one output buffer comprises:
  - an overlay image buffer; and
  - a burned-in image buffer.
6. The apparatus according to Claim 1, wherein said control logic comprises:
  - input control logic adapted to coordinate reception and initial processing of input radiological images; and
  - output control logic adapted to coordinate output processing and transmission of processed radiological image information.
7. The apparatus according to Claim 6, wherein said control logic is further adapted to log information about processing of radiological images.
8. The apparatus according to Claim 1, further comprising:
  - at least one input buffer; and
  - at least one output buffer; and
  - wherein said control logic comprises error recovery logic coupled to said input and output buffers and adapted to check contents of said input and output buffers and to base recovery at least in part on said contents of at least one of said input and output buffers.
9. The apparatus according to Claim 1, wherein said control logic is adapted to check parameters of said input radiological images.
10. A system for processing radiological images, comprising:
  - one or more radiological image sources, each coupled to a communication network and adapted to transmit radiological images over said communication network;

the apparatus according to Claim 1, also coupled to said communication network; and  
radiological image processing equipment coupled to said apparatus.

11. The system according to Claim 10, wherein the communication network is adapted to comply with DICOM standard protocols.

12. The system according to Claim 10, wherein said radiological image processing equipment comprises a computer-aided detection (CAD) processor.

13. A method of interfacing radiological image processing equipment with a communication network, the method comprising:

buffering each input radiological image received from said communication network in an input buffer;

converting a format of said input radiological image to create a reformatted radiological image;

providing said reformatted radiological image to said radiological image processing equipment; and

buffering output from said radiological image processing equipment.

14. The method according to Claim 13, wherein said converting a format comprises:

removing non-image data from said input radiological image.

15. The method according to Claim 13, wherein said converting a format comprises:

renaming a file containing said input radiological image.

16. The method according to Claim 13, wherein said output from said radiological image processing equipment comprises at least one of overlay output and burned-in image output, and wherein said buffering output comprises

buffering overlay output in an overlay output buffer and buffering burned-in image output in a burned-in image output buffer.

17. The method according to Claim 13, further comprising:  
removing an input radiological image corresponding to buffered output from said radiological image processing equipment from said input buffer.

18. The method according to Claim 13, further comprising:  
transmitting buffered output from said radiological image processing equipment to at least one destination; and  
deleting the buffered output that was transmitted after receiving at least one acknowledgment from said at least one destination.

19. The method according to Claim 13, further comprising:  
logging at least one of status and error data.

20. The method according to Claim 13, further comprising:  
assigning a file name to a file representing an input radiological image based on at least one of a counter and an image type.

21. The method according to Claim 13, further comprising a method of recovery, comprising:  
checking said input buffer;  
checking an output buffer in which said buffering output buffers said output;  
resetting a file naming counter to zero if said input buffer and said output buffer are both empty; and  
incrementing said file naming counter from a previous counter value if at least one of said input buffer and said output buffer is not empty.

22. The method according to Claim 21, said method of recovery further comprising:

transmitting output from said output buffer if said output buffer is not empty; and  
processing contents of said input buffer if said input buffer is not empty.

23. The method according to Claim 13, wherein said radiological image processing equipment comprises a computer-aided detection (CAD) processor.

24. A method of processing radiological images over a communication network, comprising:

transmitting over said communication network at least one radiological image from an image source to a processing apparatus implementing the method according to Claim 13; and

transmitting, from said processing apparatus to at least one destination over said communication network, output from said radiological image processing equipment buffered during said buffering output.

25. A computer-readable medium containing software code that, when executed by a processor, performs the method according to Claim 13.

26. A computer system adapted to perform the method according to Claim 13.